

ABSTRACT

An improved variable resistor at least partially compensates for non-linearities in an electrical circuit containing a heating element, for example, a thin-film heating element. A controllable heater includes a heating element, a voltage source (for example, a standard AC electrical outlet) coupled to the heating element, and a variable resistor coupled to the heating element and voltage source. The variable resistor includes a fixed resistive element (for example, one or more thin-film resistors) and a moveable element such as a slider control. The moveable element adjustably contacts the fixed resistive element at a contact point associated with the position such that the variable resistor has a resistance that is at least partially non-linearly related to the position, but wherein the heating element has a dissipated power that is at least partially linearly related to the position of the variable resistor. Such a system may be used in conjunction with a vapor-delivery device to provide more linear control over the intensity of fragrance provided within an environment.